or magnesium, such as magnesium hydroxide or alumina trihydrate, or mixtures thereof (see, for example, patents US 4,145,404, US 4,673,620, EP 328,051 and EP 530,940).

The inorganic fillers can be used as they are or coated with various hydrophobic products, for example with saturated or unsaturated fatty acids or salts thereof, in particular oleic acid or stearic acid or the corresponding oleates or stearates, or with organic silanes or titanates.

For example, patent application WO 96/27885 describes a flame-retardant composition for coating electrical cables, comprising polypropylene as polymer matrix supplemented with 1-20 % by weight of a polyethylene wax and 100-200 % by weight of magnesium hydroxide coated with a hydrophobic product, for example an alkylsilane (% by weight relative to the weight of the polypropylene). This coating is said to increase the compatibility between the filler and the polymer matrix and at the same time to impart hydrophobic properties to the flame-retardant coating, thus avoiding the absorption of moisture which would reduce the efficiency of the insulating properties of the material.

Japanese patent application JP-07-161,230 (Kokai) describes polymer compositions with flame-retardant properties, containing appropriately ground natural magnesium hydroxide which has been surface-treated with a fatty acid or a salt thereof, or with a silane or a titanate, in amounts of between 0.5 and 5 % by weight relative to the weight of the hydroxide. As described in that patent application, surface treatment of the filler is said to make it possible to reduce the absorption of moisture, thus preventing the water vapour released from the filler during the extrusion of the composition on the cable from effecting a kind of expansion of the material and a worsening of the surface appearance of the cable thus obtained.

The Applicant has observed that, in the production of self-extinguishing cables in which an inorganic filler as described above is used, coating of this filler with hydrophobic agents, as indicated in the prior art, is not sufficient to obtain a satisfactory result which is reproducible on an industrial scale, in particular when the process for extruding the flame-retardant composition is carried out at elevated temperatures in order to increase the fluidity and thus the processibility of the composition so as to obtain high extrusion rates and thus high productivity. Specifically, the Applicant has often observed, with flame-retardant fillers which are either coated or non-coated, and in particular with those of natural origin (i.e. obtained from minerals rather than by synthesis), the formation of a coating layer of unsatisfactory appearance, which has a dull, rough surface. In addition, in certain cases, the formation of pores inside the flame-retardant layer has been observed, with a consequent reduction in the mechanical properties of this coating.

The Applicant has now found that it is possible to obtain a self-extinguishing cable with a flame-retardant coating which is substantially free of pores and which has a smooth and uniform outer surface, if a dehydrating agent is added to the composition comprising a polymer base and an inorganic flame-retardant filler. This dehydrating agent can be added to the flame-retardant composition during the mixing (compounding) phase or directly upstream of the extruder.

In a first aspect, the present invention thus relates to a process for producing self-extinguishing cables with low-level production of fumes, which comprises:

(a) preparing a flame-retardant composition comprising a polymer base and an inorganic flame-retardant filler;

(b) extruding said flame-retardant composition on an electrical conductor, which is optionally precoated with an insulating layer, so as to obtain a flame-retardant coating layer;

characterized in that a dehydrating agent is added to said flame-retardant composition.

According to a first embodiment of the invention, the dehydrating agent is added during phase (a) of preparation of the flame-retardant composition.

In a preferred embodiment, the dehydrating agent is added during phase (a) of preparation of the flame-retardant composition after a first phase of mixing the composition at a predetermined temperature and for a predetermined time so as to reduce the moisture content present in the flame-retardant filler.

According to a further embodiment of the invention, the dehydrating agent is added during phase (b) of extrusion of the flame-retardant composition.

According to a further aspect, the present invention relates to a flame-retardant composition comprising a polymer base and an inorganic flame-retardant filler, characterized in that it also comprises a dehydrating agent.

In the Applicant's perception, the dehydrating agent exerts its action by absorbing the water present in the flame-retardant filler, which is released during the heating of the composition in the extrusion phase. The mechanism of absorption is preferably of irreversible type, or the dehydrating agent can absorb the water reversibly but with a low rate of release of the moisture at the extrusion temperature, so as to ensure the virtual absence of water in the vapour state during the extrusion phase. Working in this way prevents the formation of pores inside the flame-retardant coating and/or the appearance of roughness on its surface. The amount of water released increases as the extrusion temperature increases, as a result of which